# Online Multiplayer Gaming for Learning Creative Writing

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**Abstract:** There are very few creative writing educational games in the market. "Finish the Story" was created as a tabletop game that enables students to practice creative writing skills within constraints, public speaking, and collaboration. However, it is difficult and cumbersome to engage with the tabletop version of the game remotely. This is a critical issue during these times of remote-learning and online school. To tackle this problem, we created an online multiplayer version of "Finish the Story'' so that it is playable remotely.

## Introduction

Creative writing has existed since the invention of written language, yet, there is heavy dispute about whether it can even be taught (Montgomery, 1975). Perhaps this is why very few serious games for learning creative writing exist. To fill this gap in the market, we created the tabletop version of "Finish the Story", a collaborative, constraint-based writing game for students. However, just a physical version of the game was not enough.

The need for digital educational serious games is ever-increasing –especially in a post-Covid world where remote learning continues to sporadically become the norm whenever there is a spike in cases. With remote learning, comes the challenge of interacting with your peers in a meaningful way while also getting a valuable education (Al-Maskari et al., 2022). This need fueled our desire to create an online multiplayer version of "Finish the Story".

## Related Work

Some creative writing games that already exist are "Story Cubes", "JabberJot", "Story Kitchen", and "The What-if Question Genie". Individually, however, these games do not incorporate all the elements and game features as "Finish the Story". Refer to Table 1 at the end of the *Related Works* section for direct comparisons between the games.

### Story Cubes[1]

"Story Cubes" is a simple game that requires a player to roll nine cubes. The faces of the cubes have images on them that serve as constraints and the goal of the game is to create a story that includes each of the images. "Story Cubes" can be played solo if the player is experiencing writer's block or just wants to practice their writing skills. It can also be played with others as each player takes turns sharing their own version of the story. It is a flexible game that can be played in a variety of ways.

### JabberJot[2]

"JabberJot" is a multiplayer tabletop constraint-based game. Players have 90 seconds to create a story involving three random images, three random words, and one random theme. The constraints are drawn from a deck of cards. When the 90 seconds are up, players share their stories and the judge for the round picks the winner. Whoever has the most points by the end of the game wins. Although "JabberJot"

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[1] How to play "Story Cubes": https://www.storycubes.com/en/comment-jouer/

[2] Review and how-to-play "JabberJot": https://boardgamegeek.com/boardgame/20816/jabberjot

involves more gameplay and players than "Story Cubes", it still lacks a collaborative element since players are ultimately competing against one another.

## Story Kitchen[3]

"Story Kitchen" is similar to "Story Cubes", but it allows children to pick the constraints shown below in *Fig. 1*. Once they decide on a "Hero", "Place", and "Villain", they click the "Make my Story" button which takes them to a new page that contains the beginning portion of a story. The challenge for the students is to finish writing the story.



*Figure 1.* Landing page for "Story Kitchen" where children can select their own constraints.

## The What-if Question Genie[4]

"The What if Question Genie" is an online random writing prompt generator for children. Whenever students click on the genie, a new "what-if" prompt is generated. Some example prompts are: "What if your mom stole a hillbilly?", "What if a sea serpent taught a hippie?", and "What if a chef became terrified of a city?". The goal is to create engaging prompts which students can then use to write their stories.

## Finish the Story (Tabletop Version)

The tabletop version of "Finish the Story" needs at least three players to play because players must work together to craft a collective story. The goal of the game is to teach students about Freytag's Pyramid, which is one of the most heavily used visualizations of plot in fiction (Dobson et al., 2011). There are seven rounds in the game that last 2 minutes each: Exposition, Inciting Incident, Rising Action I, Rising Action II, Climax, Falling Action, and Resolution. At the end of each round, players read their stories out loud and then vote on their favorite. They can't vote for themselves or the previous round's winner. The winning segment becomes a part of the story and players have to build on it in the following rounds.

At the start of the game, each player randomly selects two player cards to determine their character traits. Then, they collectively select a random landscape card. During the Exposition, they must give a background story for their character.

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[3] Play "Story Kitchen" online here: http://www.brucevanpatter.com/storykitchen.html

[4] Play "The What-if Question Genie" here: http://www.brucevanpatter.com/what_if_questions.php

At the beginning of the Inciting Incident, the Exposition winner picks three challenge cards and selects their favorite –this is the challenge the players must overcome together in their story.

During Rising Action I, players must include an interaction between their character and the character directly to their right.

In Rising Action II, players must come up with a possible plan involving the other players so that they can overcome the challenge together.

The Climax is where players must finally face the challenge.

During the Falling Action, players write about the aftermath of the climax.

Finally, in the Resolution, each player can once again focus solely on their character and let everyone know what is next for them.

At the end of the game, the player with the most points wins and reads out loud the final story the team wrote together.

It is clear that "Finish the Story" is a much more in-depth game than the others mentioned above because it heavily focuses on teamwork as well as a predefined story structure.



*Figure 2.* A hybrid playthrough of one of the early prototypes for the tabletop version of "Finish the Story". Players over Zoom asked in-person players to draw cards and hand out gems on their behalf.

| | Online | Multiplayer | Generates Constraints | Collaboration Oriented |
|---|---|---|---|---|
| Story Cubes | N | Y | Y | N |
| JabberJot | N | Y | Y | N |
| Story Kitchen | Y | N | Y | N |
| The What-if Question Genie | Y | N | N | N |
| Finish the Story Tabletop | N | Y | Y | Y |

*Table 1.* This table shows comparisons between current creative writing games in the market as well as the prototypes for "Finish the Story".

## Problem Definition

Out of all the games mentioned in the earlier *Related Works* section, the tabletop version of "Finish the Story" is the only game that is multiplayer, generates constraints, and is collaboration oriented. In fact, it is the only game that uses player collaboration as a key game design element where players need to build a story together.

Unfortunately, the tabletop version of "Finish the Story" lacks remote-friendliness. As shown in *Figure 2*, remote players can only look at the board through a webcam and don't have the ability to draw their own player and constraint cards. Compared to their in-person counterparts, remote players feel more disconnected from the game, which makes the learning experience far less engaging and meaningful for them. Some specific struggles remote players faced were: forgetting what happened in an earlier scene since it is difficult for them to see the story cards on the board, difficulty awarding points to fellow players, internet connectivity issues, and problems with their microphones.

## Solution Approach

To combat the issues mentioned above, we created an online multiplayer version of "Finish the Story". The current prototype only allows three players, but this could be amended in the future.

While the original tabletop version of "Finish the Story" heavily focused on fantasy elements, the digital version is much more open-ended since the cost of adding new choices is low in a digital medium. Players only draw one character card, rather than the original two, but the combinatorial possibilities given by the original two sets of character cards are made up for by the increased number of character options in the set of digital "cards."

We decided neither to constrain the choice of landscape cards to match themes in the character cards, nor do the opposite. For instance, it is possible to get the landscape card "New York" and character cards which include fantastic elements. Further work beyond the prototype stage might add sets consisting of a landscape and thematically appropriate character options, but we believe the current "grab bag" combination of landscapes and character options arguably stimulates creativity by forcing players to reconcile seemingly disparate hands dealt by the digital deck. A revised character and landscape card picker which, for instance, only allowed real-world professions as characters for the New York landscape, or only allowed fantasy characters for the fantasy landscapes, would likely encourage players to fall back on tropes rather than exercising their creativity.

During each round, players can see the other players' word count, which achieves an effect of the original game: players know when other players are busily writing, or when they've thrown out an idea. However,

a given player cannot see the actual text that other players are writing; this design and implementation choice was made so players don't get overwhelmed, distracted, or influenced by each other's writing.

Unfortunately, the digital version doesn't allow players to read their writing out loud; instead, in the digital version, at the end of each round each player's writing is revealed. The players can then read the entries and vote on their favorite entry for that round. The increased emotional depth of a human voice, as well as the opportunities afforded for dramatic readings and practice in public speaking, could be restored to the digital play experience outside the game itself, by using a voice conference call or video conference like Zoom in conjunction with the game. Alternatively, speech to text software could be used within the app to read each round's entries, or the complete story, aloud. This could be done by taking advantage of browser standards for video communication like WebRTC.

## Technical Details

The digital version of "Finish the Story" is implemented as a server-side rendered Python web application, with some client-side JS scripting used to keep each player's view synchronized with the evolving game state where necessary (such as when showing word counts during each round.) The Python code uses the Understory web framework (Gladding 2021) to implement a partial RESTful API for games, players, votes, and writing submissions.

The technical design allows for multiple groups of players to use the application at once, each of them building their own story. The resulting stories are saved, and can be accessed for later viewing.

The most important feature of the user interface is that players, while working on their entries for rounds 2 and higher, can view all of the winning entries for each of the previous rounds. This allows them to see the story taking shape from round to round, and use the story so far as context for what they are writing in the current round.

## Future Evaluation Method

Although we have not yet evaluated the online version of "Finish the Story" compared to the physical, tabletop version, we intend to conduct this research in the future.

This evaluation will be rooted in the Game Experience Questionnaire (GEQ) (IJsselsteijn et al., 2013). Specifically, we plan on using the Core and Social Presence Module questions. Participants will play through the tabletop and digital versions of "Finish the Story" in groups of three where the player groupings will remain identical between the two versions. The order in which groups play the tabletop or digital version first will be randomized.

## Conclusion

There are very few educational creative writing games in the world at the moment. Of the games that do exist, very few focus on a collaborative writing experience emphasizing creativity within constraints. Based on our research and evaluation, the tabletop version of "Finish the Story" fills this void within the serious games market.

The online multiplayer version of "Finish the Story" solves the critical issue of remote-based collaborative learning. It gives students the ability to play the game remotely with their peers and continue to develop their creativity and writing skills.

However, at this time, we have not yet formally evaluated and compared the tabletop and digital versions of "Finish the Story" against each other. We intend to focus on this evaluation and comparison in future research.

## References

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